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ABSTRACT

Locus of control has most frequently been measured using Internal versus External measures. Some researchers have suggested that the External category should be broken down into two subcategories of powerful others and chance. In much previous research, Internality has been found to be related to positive adjustment. This may have implications for women and minorities, both of whom are more frequently found to attribute control to external factors. While several researchers have examined sex differences, few have used gender role measures in this research. This study was undertaken to examine the relationship between locus of control and gender role. Subjects (N=102) were college students who completed the Bem Sex Role Inventory and the Powerful Others, Chance, and Internal attribution scale. Eighty-four of the subjects were classified as having an internal locus of control, none as having powerful others, four as having chance. Twenty-five subjects were not classifiable by their scores. A nonsignificant trend for the interaction of sex by locus of control was found. Findings further indicated that Internal locus of control may be over-represented in some college populations. (Contains 60 references.) (Author/NB)

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Sex, Gender and Locus of Control in College Students

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Running Head: LOCUS OF CONTROL

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Abstract

Locus of Control has most frequently been measured using Internal versus External measures. Some researchers have suggested that the External category should be broken down into two sub-categories of powerful others and chance. In much previous research, Internality has been found to be related to positive adjustment. This may have implications for women and minorities both of whom are more frequently found to attribute control to external factors. While several researchers have examined sex differences, few have used gender role measures in this research.

This research was undertaken to examine the relationship between locus of control and gender. Subjects (n=102) were surveyed for locus of control and sextype. A non-significant trend for the interaction of sex by locus of control was found. Findings further indicate that Internal locus of control may be over-represented in (at least) some colleges.

Sex, Gender and Locus of Control in College Students

Rotter (1966) introduced locus of control as construct relating to whether an individual perceives that he or she possesses or lacks control over what happens to him or her self. Individuals who attribute control over their lives to internal forces (themselves) are said to have an internal locus of control. Individuals attribute this control to forces external to themselves are said to have an external locus of control.

Human beings find it necessary to make attributions for the causal factors in the occurrence of an event; these attributions may or may not facilitate adjustment. Rotter (1966) hypothesized that people who view reinforcements as contingent on their own behavior (internals) are better adjusted than those who see reinforcement as determined by fate, chance or powerful others (externals). He further theorized that there might be a curvilinear relationship between the adjustment such that individuals at either end might be more maladjusted than those in the middle range. Taylor et al (1984) found that, of their subjects who had breast cancer, ninety-five percent made attributions for the cause. None of these attributions, however, were significantly correlated with adjustment. Although some investigators have corroborated Rotter's (1966) hypothesis (Cromwell, et al, 1961; Shybut, 1968), others have found inconsistent or nonexistent relationships between internality and adjustment (Fontana & Gessner, 1969; Harrow & Ferrante, 1969;

Echols, 1984; Tolor 1978; Morelliet et al, 1979; Marshall, 1979 [as cited in Lefcourt, 1981]; Herrera, 1983).

The "normal" attributional style was discovered long before the depressive style. Called the "self-serving bias", it is the tendency to take credit for successes and disclaim responsibility for failures (Brown, 1986). An internal locus of control perceived for positive events and an external locus of control perceived for negative events is said to form the cognitive basis for the self-serving bias. Locus of control as part of the self serving bias has been documented in the case of both the battered wives and the battering husbands (Sheilds and Hanneke, 1983). The self-serving bias allows one to see oneself in the most favorable light. Welker (1972) found that internals (both male and female) had more ego strength, more control of maladjustment, less anxiety, and less dependence on others than did externals.

The early work with the locus of control construct focused on achievement behavior and was based on the premise that individuals with an internal locus of control would show more effort and persistence in attempting to achieve than externals because the latter group would see no connection between their behavior and outcomes. Higuchi et al (1983) presented results which confirmed the validity of a causal attribution model of academic achievement. This model assumes that individual attribution style influences perceived control, perceived control influences behavior, and behavior influences achievement.

There are conflicting results regarding the relationship

between locus of control and achievement. Many studies designed to examine locus of control and academic performance and using unidimensional measures have produced insignificant or inconclusive results (Warehime, 1972). Marchbanks (1985) found that there were no significant differences for male or female subjects or for locus of control between those who chose to join an honors program and those who chose not to. There have been some studies which find locus of control to be positively correlated with achievement. Griffin et al (1983) found that successful students made more attributions to teacher performance (external, powerful other) than did unsuccessful students. Some research has extended this research to the relationship between success and locus of control in relation to sex and ethnicity, which are discussed below.

Locus of control has also been examined with respect to its relationship to maladjustment. Rotters' internality-externality scale has been employed in several studies that have shown externality to be related to pathology and distress (Harrow and Ferrante, 1968) and internality to positive health indicators including favorable self-descriptions (Hersch and Scheibe, 1967). Welker (1972) found that externals of both sexes had significantly more pathology, more dependence and less ego strength than did internals. Taylor (1984) found a negative correlation between blaming others (external) and adjustment in patients with breast cancer. Calicchia and Pardine (1984) found that depressed subjects (as determined by the Beck depression Inventory) revealed significantly more self-blame (determined by the Attributional

Style Questionnaire) than the nonclinical control group.

People in positions of lesser societal power (like women) appear to have external attributional styles (loci of control). Early research indicated that when women are successful, they are more likely than men to attribute their success to external factors such as ability (Simeon and Feather, 1973). Newhouse (1974), however, found no differences between men and women in accepting credit for success. Women are more likely to attribute failure to internal causes like their lack of ability (Mcmahan, 1971, 1972; Calicchia & Pardine, 1984; Newhouse, 1974). The husbands of battered women have been found to explain their behavior as caused by external forces, while their wives explain the husbands' behavior in terms of internal (uncontrollable) causes. This was not found to be true when the victims were other members of the family; here the wives attributed the behavior to causes external of the husbands (Sheilds & Hanneke, 1983). Garza (1977) found that women showed less external activity than men. Observers have been found to attribute a man's success to internal causes and a woman's to external causes (Deaux and Emswiller, 1974). Watkins (1982) found significant sex differences between females and males in attribution on both unstable sources (luck and effort), which males rated as more important than did females. These differences in attribution could be correlated with the lack of power experienced by certain groups.

Minority groups other than women seem to show similar attributional styles, although some previous research has been

contradictory. It is likely that women (as opposed to men) and minorities (as opposed to the majority) could share a style of attribution due to similar learning experiences. Graves found greater internality in anglos than in Chicanos. Scott and Phelon (1969) and Baker et al (1979) found no significant differences in attributional styles between Anglos and Chicanos. Garcia and Levenson (1975) examine the relationship between multidimensional measures of locus of control and two demographic variables: Socioeconomic status and ethnicity. Students (84 whites and 110 blacks) from low income families had stronger perceptions of control by chance (external) than did wealthier students. Analysis of covariance controlling for socioeconomic status showed that blacks score significantly higher than whites on the perceptions of control by powerful other and by chance (external). Shearer and Moore (1978) found significant racial differences with an adult felon sample. White prisoners (n=93) had higher expectations of personal control than did Hispanic prisoners (n=113) and Black and Hispanic prisoners had more perceptions of control by powerful others and by chance than did white felons. Greater overall internality was found in Chicanos than in Anglos (Garza and Ames 1976). Although some of the research is inconclusive, it is interesting to note how similar the style of attribution is for minorities and for women.

Certain between group differences in attributional style may reflect responses to differential socialization, as well as differences in what constitutes adaptability. Gatz et al (1978)

found that a moderate internal-external locus of control was most adaptive in coping in a study with black and white high school students. Also, for students doing well, moderate to high externality was related to goal attainment, and for students doing poorly, internality related to goal achievement. Moderate locus of control (not highly internal or external) was correlated to high achievement in whites, while externality characterized the black high achievers. Battle and Rotter (1963) found an association between externality and high intelligence among blacks, which may indicate that this is learned and further, that it is a defense of sorts, or that experience has validated this style. Schilhab (1977) found that females had significantly higher self esteem, higher anxiety levels and less isolation than did males in a newly integrated sixth grade. Sanger and Alker (1972) found greater externality among feminists than among nonfeminists.

To see reinforcements as non-contingent on ones' own actions is not be maladaptive for people in not-powerful positions. Their perceptions of control by powerful others are realistic because of the nature of specific situations or cultural sanctions (blacks, prisoners, women) belief in the personal responsibility for outcomes may be quite dysfunctional; the perception that powerful others are in control may allow for more effective and innovative behaviors. Gender differences are particularly important in this regard. Women seem to achieve more success when they are raised in hostile home environments and when they view powerful others as playing a major role in their lives (Lefcourt, 1981). Newhouse

(1974) found that the older children were significantly more likely to accept responsibility for failure and less credit for success than are younger children. Using Rotters' scale, Lao (1974, as cited in Lefcourt, 1981) found that there is an increasing sense of efficacy from youth to childhood, indicating that attributional styles change with age, probably as a result of learning. Focusing on the positive aspects of externality has implications not only for interaction among individuals but for the functioning of society. People who see the system or other individuals as controlling outcomes may attempt to change the system into one that would permit more individual or personal control (Lefcourt, 1981).

There are several possible explanations for the differences in attributional styles and in their adaptability. One is that families and society conditions people to function (and make) attributions in certain ways. Sears (1950) posited social interaction theory that social institutions such as family and schools would incorporate various patterns of reinforcement which might apply to children in different ordinal positions, sex and age. That is, males would likely have a different interactions pattern of reinforcement than females. Rotter (1966) had reasoned that consistent and nurturant child-rearing practices should be related to the development of an internal locus of control. MacDonald (1971) and Reinmanis (1971, as cited in Lefcourt, 1981) found a relationship between consistent home environment and internality among males; no such finding has been reported for females (Lefcourt, 1981). In fact, investigators have found that

women whose fathers were nurturant scored higher in externality (Katkovsky, Crandall, & Good, 1967) whereas women who felt that their mothers did not care about scored higher in internality (Reimanis, 1971, as cited in Lefcourt, 1981).

Little if any research attention has been paid to sex and sex-role differences as they may related to attributional style and depression (Calicchia and Pardine, 1984), although females are more often diagnosed as clinically depressed (and hence negative self-attributions on the part of females are in keeping with the model). Warehime and Fould (1971) found that the hypothesized relationship between internality and adjustment were more strongly supported for females than for males. In direct contrast, Valle and Koeske found (1974) that females showed a greater relationship between externality and self-actualization. Calicchia and Pardine (1984) found that females blamed themselves more than did the males for their negative life experiences while males accepted more credit for success.

Although may studies have referred to gender differences in the locus of control, what they have really examined are sex differences (eg: Maccoby & Jacklin, 1974; Deaux & Emswiller, 1974; Simon & Feather, 1973). Sex has been used to refer to biologically produced differences, and gender to male-female differences that are a result of learning (Hyde, 1985). Brown (1983) found that women graduate students who were more traditional (sex-role stereotyped) saw their reinforcers as coming from external sources, while non-traditional women were more likely to

feel that they exercise personal control of their lives (have an internal locus of control). Safilious-Rothschild (1976, as cited by Brown, 1983) suggests that high-achieving women lack an internalized belief about their ability. There is some indication that this external attributional style may be a defense against seeing ones' behavior as incongruent with ones' sex role orientation (Safilious-Rothschild: Thurber, 1972). Attributing ones' success to external forces allows one to take less responsibility for them (Deaux & Emswiller, 1974; Frieze et al, 1978). Thus, women who are more sterotypically femininely oriented would be more likely to exhibit an external attributional style than would females with other sex-role orientations. Locus of control should be more closely related to learning than to biology, to gender than to sex.

Some research has examined the relationship between gender and self-esteem. The Bem Sex Role Inventory has some drawbacks, but is nevertheless a valuable tool. Pyke et al (1983) suggest that the blending of gender schema and androgyny is problematic in its description of how individuals are less likely to process information in sex-linked terms, and unclear in its explanation of the relationship between "being sex-typed" and the "process of sex-typing". Brown (1986) defines gender schemata as schemata or scripts of what is sex-appropriate; thus sex-typed persons will look for what is gender appropriate while the androgynous person will look for what is appropriate. (The behavior of the undifferentiated person is rarely discussed.) Payne (1983) found

that self-esteem mediated the relationship between adjustment and masculinity, so that when controlled for there was no accounting for the significant difference in anxiety-depression scores. Payne (1983) further found that instrumentality was related adjustment only in those with low expressiveness and expressiveness was related to adjustment only for those with low instrumentality. Lamke (182) found that the relationship between sex-role orientation and self esteem varied with the sex-role measure employed. Results of the Bem indicated that androgynous subjects had higher self-esteem than did masculine, feminine or undifferentiated subjects. When the independent contributions of masculinity and femininity were assessed using the BSRI and other measures, both masculinity and femininity significantly predicted self-esteem.

The literature on internal-external locus of control continues to use the Rotter I-E scale (eg. Hill & Bale 1980; Strickland & Haley, 1980; Walters & Klein, 1981). This scale, however, does not differentiate between two types of external control: belief in powerful others and belief in change. There may be cognitive differences between those who believe in control by powerful others and those who belief that in control by chance. In the former case, there is potential for control. It is conceivable that a person may perceive enough regularity in the behavior of powerful that she or he can obtain reinforcements through purposeful action. The discoveries of inconsistencies and inadequacies of the I-E scale led to a number of factor analytic studies which underscored

the need for multidimensional view of the construct (Collins, 1974; Gurin, Gurin, Lao & Beattie, 1969; Mirels, 1970). Newhouse (1974) examined the reinforcement-responsibility, a measure of locus of control and its possible relationship to several variables: sex, birth order, and grade level, using an unbalanced factorial design.

Brown's (1966) external category has been broken down into the subcategories of control by powerful others and control by chance. Thus control can be attributed to internal forces or (external) powerful others or to (external) chance. The Powerful others, Chance and Internal scales designed by Levenson (Lefcourt 1981) have been validated by comparison to Rotters' scale (Levinson, 1972 as cited in Lefcourt, 1981; Donovan & Oleary, 1978; Hall, Joesting & Woods, 1977). In the initial validating study, (Levenson, 1972) male adults had significantly higher Powerful Other scores than did female adults. There were no differences on the Internal or Chance scales. Freischlad, as cited in Lefcourt, 1981) also found significantly higher perception of control by powerful others among male high school and college students than among their female counterparts. In other significant studies, (Hall, Joesting & Woods, 1977; Kramper & Nispel, 1978, as cited in Lefcourt, 1981) found no significant gender differences but Mahler (1974) discovered that Japanese females scored significantly higher than Japanese males on the perception that their lives were controlled by powerful other people, and for these women this is probably true. Belief in control by powerful others may be related

to a belief in the regularity of the actions of powerful others and the expectation that reinforcements can be obtained through purposeful action, which is a form of control.

It has been shown that people in positions of empowerment tend to have more internal locus of control than do those in positions of dependency. This may be due to learned response in relation to cues received from society, in which case gender would be more closely related to locus of control than is sex. The research regarding gender differences in regard to locus of control have been lacking.

This study is an exploration of the relationship between locus of control and gender. Previous experiments studying gender, have, in reality, been studying sex. The hypothesis to be tested is that femininity will be correlated with internality. A second hypothesis is that masculinity will be more closely correlated with control by powerful others than with control by chance.

Method

Subjects

The subjects (n=102) were Caucasian, first-year College students, male (n=44) and female (n=58) between the ages of 18 and 21, who had never taken a course in psychology. Subjects were asked to participate in an experiment and agreed to do so. Names of possible subjects were selected by choosing all first-year students whose names did not appear on a course list for any of the introductory psychology courses offered in the year in which the study was conducted.

Materials

Two hundred test packets, each containing one copy each of the Bem Sex Role Inventory, and of the Powerful Others, Chance and Internal attribution scale (IPC), presented in Lefcourt (1981), and a cover letter asking the subjects' participation were used in this study.

Locus of control was measured by self-report on a 6 (-3 to +3) point Likert type scale. The IPC scale is a likert style format, 24 items with which the subject may agree or disagree or disagree to various degrees, each of which reflect (eight items to each) one of the three loci of control. Each dimension was measured in eight items (hypothetical situations), and the scores were totalled for each dimension. To be classified as showing a certain style, the total score must be above 0 on that dimension and below 0 on the other two dimensions.

Gender of subjects was classified using the Bem Sex Role Inventory. Those who scored above or below 4.9 on both were classified as androgynous or undifferentiated respectively. Distribution of gender by sex is shown in Table 2.

The cover letter offered copies of the results to those interested, stated that each persons' response was crucial, and asked subjects to return the questionnaire to the experimenters' box. Two hundred pennies were obtained from the local bank.

Procedure

A test packet was placed in each mail box belonging to a selected subject. A penny had been taped to each cover letter in

order to help obtain as large a response as possible. In addition, reminders were sent out twice. One week was allotted for the return of the questionnaires. The completed questionnaires were scored according to instructions, and statistical analyses were performed.

Design

Chi-squares and a Manova (multivariate analysis of variance) were performed. All data were submitted to a 2x4x4x3 (sex [male, female] x age [18, 19, 20, 21] x gender [feminine, masculine, androgynous, undifferentiated] x locus of control [internal, powerful others, chance]) analysis of variance. Three Chi Squares were performed (sex [male, female] by gender [feminine, masculine, androgynous, undifferentiated], sex by locus of control, and gender by locus of contrl). The three occurring levels of loci of control (internal, chance, and unclassifiable) were utilized.

Results

Eighty-four of the subjects were classified as having an internal locus of control, none as having powerful others, four as having chance. Twenty five were individuals were not classifiable, scoring above or below 0 on all three dimensions. These last were labelled the "unclassifiable" locus of control group. The means for all genders were highest for internality, lowest for the powerful others dimension, with those for chance falling in between. Distributions of locus of control by gender, locus of control by sex, and of sex by gender are shown in Table 1, Table 2, and Table 3, respectively. Means, medians, and standard deviations

are shown in Tables 4, 5, and 6, respectively.

More women than expected were feminine, $x\ (3) = 8.30433$, $p < 0.05$. There was a non-significant trend for more men than expected to be unclassifiable on locus of control, $x\ (2) = 5.991$, $p < 0.1$

Interaction effects for locus of control, were insignificant for sex by gender $F(6) = 1.510$, $p < .179$; sex by age $F(10) = 1.169$, $p < .316$; age by gender $F(12) = .979$, $p < .471$; and sex by age by gender $F(6) = .862$, $p < .524$.

The main effect for locus of control revealed a nonsignificant trend for sex $F(2) = 2.331$, $p < .101$, with men having higher levels of internal locus of control more frequently than women. The main effects for locus of control were insignificant for age $F(10) = .723$, $p < .702$; and gender $F(6) = .356$, $p < .906$.

Discussion

Gender is clearly related to biological sex for participants in this sample. Although non-significant, the trends further suggest that while men were more difficult to categorize, they also scored higher on the internal locus of control than did the women, on average.

These seemingly contradictory results are due to the different methods used to arrive at them. The non-parametric Chi Square refers to how often someone is falls within a certain category, (here based on scores). The MANOVA utilizes variance in scores themselves.

Although results were not significant for the relationship of sex or gender to locus of control, the direction of the trends

might suggest that, contrary to expectations, sex may be more closely related than gender to locus of control. Other researchers have found locus of control to be related to at least two of the independent variables examined in the present study. Sex has been found to be related to locus of control (Garza, 1977; Deaux & Emswiller, 1974; Watkins, 1982). Age has also been shown to affect locus of control. Age and sex are probably each very closely related to gender as well as to locus of control, although as demonstrated by the distribution of sexes by genders in this study, sex does not independently determine gender.

Masculinity and Femininity have been found to be correlated with self-esteem (Helmreich, 1978). While insignificant results were obtained, here, undifferentiated individuals showed the lowest difference between acutal distribution and expected distribution. Thus, these men and women are equally likely to to be classified as undifferentiated. As undifferentiated individuals have been repeatedly found to have lower self-esteem than their sextyped peers, it would seem that these men and women are equally likley to have low levels of self-esteem.

There were several problems with distribution of subjects in this study. Most of these are likely due to the homogeneous population from which the sample was drawn. The subjects were drawn from a small, private, largely middle class college with a reputation for a very Liberal student population. The distribution of subjects in the four categories of gender was satisfactory. The overwhelming number of subjects with internal locus of control, the

paltry number of subjects with Chance locus of control, the nonexistence of those with the powerful others locus of control, and the high number of subjects who could not be categorized made it impossible to find any significant differences between variable relationships. It is possible that these students are incidentally pre-selected for internal loci of control. That is, those students who go on to college, especially a more selective one, might tend to have a higher representation of individuals with internal loci of control than other populations.

The failure to find a distribution of subjects across locus of control may have been due to a problem with the instrument used, or with the particular population sampled. The questions may have been too theoretical, so that the subjects were not able to answer as if they were in the situation described. This instrument has however, been validated in several studies (Levinson, 1971; Donovan & O'Leary, 1978; Hall et al, 1977). There may be something unusual about the students attracted to a small liberal arts college in the midwest, about first-year students, about this particular generation of students, or about the individuals who chose to return the survey. Any or all of these factors could have contributed to the unbalanced distribution for locus of control.

The IPC scale, though multidimensional in nature, may not be multidimensional enough. The differentiation made between chance and powerful others is valuable, but does not differentiate between the cognitive bases for these attributional styles. Someone who sees events as controlled by the whims of powerful

others may be quite different cognitively and behaviorally from someone who sees powerful others as predictably dispensing reinforcements that can be attained through purposeful action. A more in-depth approach to locus of control is needed. The IPC scale, though multidimensional in nature, does not make necessary distinctions between cognitive differences within the different loci of control.

Differences (between the sexes) in attributional style have been shown to exist at an early age (Dweck et al, 1978, 1980). Dweck et al (1978) showed that these differences are likely due to learning and early socialization practices. Boys and girls were found to receive reinforcement based on different attributions. (Teachers praised factors such as boys' intelligence and girls' motivation. Negative feedback was given to boys on factors such as motivation and girls were given negative feedback on factors such as intelligence. The authors defined motivation as being an unstable factor and intelligence as being a stable factor. This is a different dimension of locus of control but does demonstrate how differing interaction patterns were found to affect the later attributions for success and failure made by the children. Gitelson et al (1982) observed similar patterns with adolescents. It seems that attributional styles are at least in part, a result of learning.

There is need for continued research on the research on the relationship between gender and locus of control. Neither of these probably is likely to be completely biologically determined.

The research examining the relationship between sex and locus of control has been contradictory (Simeon & Feather, 1973; McMahan, 1971, 1972; Calicchia & Pardine, 1984; Newhouse, 1974; Garza, 1977; Watkins, 1982). It may be that lack of attention to gender differences as opposed to and as interacting with sex differences is to some extent, responsible for this.

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Distribution of subjects

Table 1

Gender by Locus of Control

	Feminine	Masculine	Undifferentiated	Androgynous
Internal	26	22	19	17
Chance	1	0	1	0
Not-Internal	2	4	3	7

Table 2

Sex by Locus of Control

	Internal	Chance	Not-Internal
Male	32	0	12
Female	47	3	8

Table 3

Gender by Sex

	Feminine	Masculine	Undifferentiated	Androgynous
Male	7	16	11	10
Female	22	10	16	10

Table 4

Mean Scores for Locus of Control

	Feminine	Masculine	Undifferentiated	Androgynous
Internal	33.56	32.72	31.7	34.0
Chance	12.56	12.07	15.7	13.6
Not-Internal	12.96	14.41	15.37	17.25

Table 5

Median Scores for Locus of Control

	Feminine	Masculine	Undifferentiated	Androgynous
Internal	34.0	33.0	34.0	34.0
Chance	13.0	12.0	15.0	12.5
Not-Internal	13.0	23.0	15.37	17.25

Table 5

Standard Deviations for Locus of Control

	Feminine	Masculine	Undifferentiated	Androgynous
Internal	6.88	6.37	7.18	6.98
Chance	5.72	6.71	7.10	6.28
Not-Internal	8.47	7.66	6.52	8.69